

CLAIMS

We claim:

1. A polyester composition comprising:
 - I. a polyester consisting essentially of:
 - (i) diacid residues consisting essentially of terephthalic residues; and
 - (ii) diol residues consisting essentially of ethylene glycol residues, about 1 to 4 mole percent diethylene glycol (DEG) residues, and about 1 to 4 mole percent 1,4-cyclohexanedimethanol (CHDM) residues; and having an inherent viscosity (IhV, in dl/g) which satisfies the equations $IhV-X-Y = 0.74$ to 0.80 , wherein X is the mole fraction of CHDM and Y is the mole fraction of DEG; and
 - II. at least one reheat enhancing aid in an amount sufficient to provide between about 5 and 35% reheat improvement.
2. The composition of Claim 1 wherein polyester component I consists essentially of:
 - (i) diacid residues consisting essentially of terephthalic residues; and
 - (ii) diol residues consisting essentially of about 94.5 to 97.5 mole percent ethylene glycol residues, about 1.5 to 3 mole percent DEG residues, and about 1 to 2.5 mole percent CHDM residues; and has an inherent viscosity (IhV, in dl/g) which satisfies the equations $IhV-X-Y = 0.76$ to 0.80 , wherein X is the mole fraction of CHDM and Y is the mole fraction of DEG.
3. The composition of Claim 2 wherein said reheat enhancing aid is selected from the group consisting of black and gray body absorbers and near infrared absorbing dyes.
4. The composition of Claim 3 wherein said reheat enhancing aid is present in an amount of about 5 to 150 ppm.

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5. The composition of Claim 4 wherein said reheating aid is present in an amount of about 10 to 100 ppm.
6. The composition of Claim 1 wherein said reheating aid is selected from the group consisting of carbon black, iron oxide, antimony, tin, copper, silver, gold, palladium, platinum or a mixture thereof.
7. The composition of Claim 1 wherein said reheating aid is selected from the group consisting of carbon black, black iron oxide and antimony metal.
8. A polyester composition comprising:
 - I. a polyester consisting essentially of:
 - (i) diacid residues consisting essentially of terephthalic residues; and
 - (ii) diol residues consisting essentially of about 94.5 to 97.5 mole percent ethylene glycol residues, about 1.5 to 3 mole percent diethylene glycol (DEG) residues, and about 1 to 2.5 mole percent 1,4-cyclohexanedimethanol (CHDM) residues;and has an inherent viscosity (IhV, in dl/g) which satisfies the equations $IhV-X-Y = 0.76$ to 0.80 , wherein X is the mole fraction of CHDM and Y is the mole fraction of DEG; and
 - II. about 5 to 150 ppm of at least one reheating aid selected from carbon black, black iron oxide and antimony metal.
9. The composition of Claim 1 further comprising at least one UV absorbing compound which is thermally stable at polyester processing temperatures and provides less than about 20% transmittance of UV light having a wavelength of 370 nm through a bottle wall 12 mils thick.

15. The composition of Claim 10 wherein said UV absorbing compound is present in an amount between about 10 and about 700 ppm by weight.

- (1) injection molding the polyester composition of Claim 1 to form a container preform;
- (2) reheating or temperature conditioning the preform; and
- (3) stretch blow molding the preform of step (2) into a mold heated at a temperature of about 90 to 160°C.

18. A heat set container formed from the composition of Claim 1.

19. A heat set container formed from the composition of Claim 5.

- (1) injection molding the polyester composition of Claim 8 to form a container preform;
- (2) reheating the preform; and
- (3) stretch blow molding the preform of step (2) into a mold heated at a temperature of about 100 to 140°C.